

REMARKS

Claims 1-5 and 7-24 are pending in the present application. Claims 1-5 and 7-24 currently stand rejected. Without admitting the propriety of the rejections, but to facilitate prosecution, Claims 1, 18, and 24 have been amended to more particularly point out and distinctly claim aspects of the present invention. No new matter has been added.

First, Claims 1, 18, and 24 have been amended to clarify that the endless conveyor belt is "configured to convey foodstuffs". Support for this amendment can be found throughout the specification and claims, as originally submitted. For instance, Claims 1 and 18, as originally submitted, recite in the pre-amble "[a]n apparatus for treatment of foodstuffs", and "[a] method for treating foodstuffs", respectively. The specification at page 1, lines 1-4 states [t]he present invention relates to an apparatus and a method for treatment of foodstuffs". See also page 13, lines 19-21. The specification at page 3, lines 5-11 provides exemplary fields of application, including boiling of meat and pasta products, and pasteurization of bagged products such as ham and cheese. Page 3, line 34, et seq., indicates that parameters such as the height of the stack [formed by the conveyor belt] and conveying speed of the conveyor belt can be adjusted to the desired processing and drying.

Second, Claims 1 and 18 have been amended to recite, in part, "an encapsulation that is essentially tight in the horizontal direction to permit a seal" and a first end closure that "fits tightly against the outer and inner circumferential walls of the encapsulation to permit a seal". Claim 24 is similarly amended to recite an encasement with outer and inner circumferential walls with first end edges that are "essentially tight in the horizontal direction against the stack to permit a seal" and an end closure that "fits tightly against the second end edges of the outer and inner circumferential walls to permit a seal". Support for the amendments can be found at least in the specification page 9, line 30 et seq, which describes that the encapsulation is "essentially

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tight" in the horizontal direction, and explains that the upper edge of the encapsulation "fits tightly against the first end closure and its lower edge fits tightly against the outer and inner cylindrical wall. The term 'fits tightly against' relates to a *reasonable degree of sealing* that prevents a considerable flow of water vapour from passing." Emphasis added.

Third, Claims 1, 18 and 24 have been amended to clarify that the outer and inner circumferential walls are "stationary during operation of the belt". Support for this amendment can be found at least in the embodiments illustrated in Figures 2-4, which show the encapsulation 22 formed by the co-extension of the outer circumferential wall 34 (as indicated in Figures 3 and 4, and in the specification as amended in the communication of 2/1/2010) and inner circumferential wall 36 (as indicated in Figures 3 and 4, and in the specification as amended in the communication of 2/1/2010). The specification at page 5, lines 29-30, explains that the conveying direction [within the stack] is preferably towards the encapsulation. Figures 2-4 clearly show that the stationary configuration of the encapsulation relative to the movement of the belt within the stack is an inherent feature of the illustrated encapsulation. In this regard, the figures clearly illustrate an encapsulation outlet from which the belt exits the encapsulation (near the outlet identified by 25), which must remain stationary to permit a static pathway for the belt to exist the encapsulation and housing. Also, the second means 29, a tube 30 disposed within the encapsulated stack portion 20, is fed from a tube that is illustrated as penetrating through the first end closure 16. This indicates the stationary configuration of the end closure, because a mobile end closure would require the penetrating tube or pipe to perpetually move with it, thus introducing an extra dimension of complexity to the apparatus that is in no way implied in the figures. The figure imposes the same stationary configuration to the adjoining encapsulation 22 due to the corresponding geometrical symmetry of the first end closure and the inner 34 and outer 36 circumferential walls of the encapsulation 22 (see the straight lines illustrated as the

border between 16 and 22). Therefore, the stationary configuration of the encapsulation 22 relative to the movement of the belt in the stack is an inherent feature clearly illustrated in Figures 2-4.

Fourth, Claims 1 and 18 have been amended to clarify that the first end closure is arranged to "cover the conveyor belt in its entire helical path". Claim 24 is similarly amended, albeit with different phrasing. This amendment expresses a feature that is inherent to the first end closure. Support for the amendment can be found throughout the specification and in the figures. For instance, the specification at page 4, line 28 et seq states "the first end closure forms a roof over the conveyor belt and is arranged to direct, together with the encapsulation, the flow of the overheated water vapour down through the encapsulated stack portion." A hypothetical embodiment wherein the end closure did not cover the conveyor belt in its entire helical path would belie this stated purpose by permitting a large proportion of the overheated water vapour to escape the encapsulation without first passing down through the encapsulated stack portion. Furthermore, Figures 3 and 4 illustrate embodiments of the invention with vertical section cut away to assist the display of internal features. The figures indicate the continuation of the first end closure 16 over the entire helical path of the stack by dotted lines extending from the illustrated section. Therefore, the amended claims are supported by inherent features of the invention as described and illustrated in the application.

Based on the amendments set forth above and the remarks set forth below, Applicants submit that Claims 1-5, and 7-24 are currently in condition for allowance. Accordingly, reconsideration and allowance of Claims 1-5, and 7-24 is respectfully requested.

Rejection of Claims 1, 18, and 24 Under 35 U.S.C. § 112, First Paragraph

Claims 1, 18, and 24 stand rejected under 35 U.S.C. § 112, First Paragraph, as being indefinite. Specifically, the Office Action states that the term "essentially tight" renders the

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claims indefinite, and that one of ordinary skill in the art would not be reasonably apprised of the scope of the invention, notwithstanding guidance provided in the specification. The Office Action argues the description in the specification that "essentially tight" and "fits tightly against" relate to a reasonable degree of sealing to prevent a considerable flow of water vapour from passing does not reasonably apprise one of ordinary skill in the art of the scope of the invention. The Office Action reasons that a reasonable degree of sealing would be expected to vary widely depending on the type of products being processed, including examples ranging from dry dog food to computer components and wood. Applicants respectfully disagree for the following reasons and have submitted a Declaration of Anders Lassing under 37 C.F.R. §1.132 ("the Lassing Declaration"). The Lassing Declaration supports that the language "essentially tight" and "fits tightly against" provides sufficient guidance to one of ordinary skill in the art to ascertain the scope of the invention.

As a preliminary matter, the bodies of Claims 1, 18, and 24 have been amended as described above to clarify that the invention is directed to processing and drying of foodstuffs, and not products such as sensitive electronics or wood as suggested by the Examiner. Therefore, the "reasonable degree of sealing" described in the specification does not vary widely as alleged by the Examiner.

Further, Claims 1, 18, and 24 have been amended to clarify that the "encapsulation [] is essentially tight in the horizontal direction to permit a seal" and that the first end closure "fits tightly against" the encapsulation "to permit a seal," with support in the specification and figures. As set forth in the Lassing Declaration, the specification clearly communicates the purpose of the encapsulation and first end closure is to direct the flow of the second gaseous medium down through the encapsulated stack portion and on to the non-encapsulated stack portion, which permits the drying of the foodstuffs subsequent to their processing with the humid water vapour.

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Practitioners of ordinary skill in the art understand that to conform to this purpose, the seal created by the "essentially tight" configuration (or when the first end closure "fits tightly against" the encapsulation), must merely provide a greater barrier to the flow of the second gaseous medium than is provided by the combined layers of the conveyor belt within the encapsulated stack portion. Further, practitioners of ordinary skill in the art understand that the variety of drying conditions required by different foodstuffs can be accommodated by the adjustment of controllable factors, such as the rate of conveyance through the stack, the relative length of the encapsulated stack portion, and the relative rates of delivery of the first and second gaseous media.

In view of the foregoing amendments, comments, and the Lassing Declaration, Applicants respectfully submit that Claims 1, 18, and 24 as amended, especially in context of guidance clearly provided by specification, provide a standard to ascertain the scope of the invention. Accordingly, Applicant's respectfully request the withdrawal of this rejection.

Rejection of Claims 1-2, 5, 7-13, 15, 18-19, 22 and 24 Under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,515,775, issued to Crump et al. ("Crump") in view of US Patent Publication No. 2002/0139789 A1 ("Kuenen")

Claims 1-2, 5, 7-13, 15, 18-19, 22, and 24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,515,775, issued to Crump et al. ("Crump") in view of US Patent Publication No. 2002/0139789 A1 ("Kuenen"). While Applicants respectfully disagree, Independent Claims 1, 18 and 24 have been amended to facilitate prosecution.

The cited references either alone or in combination fail to render the claimed invention unpatentable. To establish a *prima facie* case of obviousness, the cited prior art references must teach or suggest each and every element of the claim. In addition, there must be some apparent reason, either in the references or in the knowledge of one skilled in the art, to modify the

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reference or to combine the elements of multiple references with a reasonable expectation of success. *KSR* confirmed that the Graham Factor Analysis should be used in determining whether a claimed invention is obvious under Section 103(a). *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1739 (2007). This analysis includes assessing the rejected claims, the scope and content of the cited art, and the differences between the rejected claims and the cited art. *Id.* at 1734. As will be shown, a *prima facie* case of obviousness has not been established because the references taken together or separately fail to teach every limitation of the claimed invention, and there is no motivation or expectation of success to combine the references to arrive at the claimed invention.

1. The Differences between the Rejected Claims, as amended, and the Cited Art

Crump

The Office Action maintains an interpretation that the passage of Crump, at Column 9, lines 9-18, and in Figure 8, teaches "L"-shaped partitions that can be attached to *any* of the existing horizontal partitions, including partition 37 (emphasis added). The Office Action specifically states that "partition 37 is clearly *an* existing horizontal partition that *could* have an "L"-shaped partition attached to it to create an additional chamber." Emphasis added. The Office Action asserts that addition of a hypothetical L-shaped partition "49" to partition 37 does not increase the complexity of the device because chamber 36 is left intact. The Office Action asserts that the hypothetical addition of the L-shaped partition "49" to partition 37 facilitates access for maintenance rather than impedes it, "because Crump [] specifically states that the "L"-shaped partitions do *provide* access". Emphasis added. Further, the Office Action argues that Crump teaches an "encapsulation extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall, citing partitions 46 and 49 being the same size. In support, the Examiner states "the claim language is interpreted to mean that the

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encapsulation formed by an outer and inner wall provides an encapsulation having the vertical length of its inner or outer walls." See Office Action page 11, line 22 to page 12, line 2; see also Office Action page 12, lines 20-21. Finally, the Office Action asserts that Crump teaches a second end closure arranged over the central space and a third end closure arranged against the lowermost turn, referring to Crump, horizontal partitions 37 and 39, respectively. Applicants respectfully disagree.

As pointed out in the Response to Office Action filed June 24, 2010, nowhere does Crump describe or suggest that an "L"-shaped partition can be attached to partition 37 to arrive at the encapsulation of the present invention. Instead, Crump describes four *specific* chambers 42, 43, 44, and 45, created by connecting four *specific* "L"-shaped partitions 46, 47, 48, and 49, to three *specific* existing horizontal partitions 22, (unnumbered, but not 37), and 41. Applicants refer to Figure 8 and the plain language of Crump, lines 9-18, which states specifically that "[a]dditional chambers 42, 43, 44, and 45, are created by connecting 'L'-shaped partitions 46, 47, 48, and 49, to *the* existing horizontal partitions". Emphasis added. The language used in Crump clearly conveys a specific listing of four additional chambers created by four specific "L"-shaped partitions. The specificity of the lists is bolstered by the use of the word "the" that refers to the existing horizontal partitions illustrated in Figure 8 to which the four listed 'L'-shaped partitions 46, 47, 48, and 49, are connected. These features are **NOT** conveyed in open-ended, illustrative lists as implicitly suggested by the Office Action. The Office Action's position imposes on the text of Crump the modifier "for example", which is clearly not present in the text. Further, the Office Action's argument that the hypothetical placement of "L"-shaped partition "49" is possible because partition 37 is clearly "*an* existing horizontal partition" belies the fact that element 37 is not one of *the* existing horizontal partitions referred to in the text and illustrated in Figure 8 with an attached "L"-shaped partition. The Office Action's position imposes on the text of Crump the

term phrase "*any* existing horizontal partition," which is clearly contrary to the wording of the text and illustration provided in the figures.

Even if an "L"-shaped partition "49" were to be hypothetically connected to horizontal partition 37 to create a new chamber, as suggested in the Office Action in Figure C, the resulting structure would negate the stated function of the chamber 36 while increasing the complexity of the device. Crump teaches with reference to Figure 7 that chamber 36 "work[s] to control the environment around the conveyor stack." Crump, column 87, lines 59-61. The chamber has the same function in the embodiment of Figure 8, as indicated by the unobstructed access to air flow exiting horizontally from the layers of the stack (see arrows). With the hypothetical imposition of partition "49" as in Office Action Figure C, the chamber 36 no longer receives horizontal flow, and thus can no longer serve to control the environment around the stack. Therefore, Crump teaches away from the imposition of an "L"-shaped partition "49" to horizontal partition 37.

Additionally, the hypothetical imposition "L"-shaped partition "49" to create an encapsulation as suggested by the Office Action would destroy the stated purpose of the embodiment shown in Crump Figure 8. As previously described in the Response to Office Action filed June 24, 2010, the same paragraph in Crump that describes the additional "L"-shaped partitions in Figure 8 also states that the "L"-shaped partitions may be advantageous because they "*preserve* large spaces inside the device for personnel access to clean or otherwise maintain the device." Emphasis added. Crump column 9, lines 12-19. Figure 8 illustrates the alternating pattern of chambers 42, 43, 44, and 45, from outside to inside to outside again with minimal co-extension, such that no single level of the stack is entirely surrounded by an "L"-shaped partition. Contrary to Office Action's assertion that the "L"-shaped partitions *provide* access, the alternating pattern of the partitions *preserves* access to the entire vertical length of the

stack by permitting access from either a large external space (such as 40) or a large internal space (such as 36 or 38) that is unimpeded by the imposition of an "L"-shaped partition. One skilled in the art would understand that it is this access through the large external spaces that permits the cleaning or maintenance of the device. Therefore, Crump teaches away from the hypothetical imposition of an "L"-shaped partition "49" to horizontal partition 37, as proposed in the Office Action.

Additionally, contrary to the assertions in the Office Action, Crump does not teach or suggest an "encapsulation extending along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall" as recited in the current Claims 1 and 18. As described above, the Office Action at page 11, line 22 to page 12, line 2, states "the claim language is interpreted to mean that the encapsulation formed by an outer and inner wall provides an encapsulation having the vertical length of its inner or outer walls." The Office Action cites Crump elements 46 and 49 indicating that they are of the same length. However, this contradicts the plain meaning of the encapsulation as described in Claims 1 and 18, which require "the co-extension of an outer circumferential wall and an inner circumferential wall" and that the "encapsulation extend[s] along substantially the vertical distance of one of the outer circumferential wall and inner circumferential wall." In essence, this requires that the vertical distance of the co-extension cannot be minimal relative to the vertical distance of one of the outer circumferential wall and inner circumferential wall. In sharp contrast, Crump elements 46 and 49 have no overlap or co-extension whatsoever. See Crump Figure 7. Therefore, the fact that Crump elements 46 and 49 may have the same length, as asserted by the Office Action, is of no import.

Contrary to the assertions in the Office Action, Crump does even not remotely teach or suggest "a second end closure [] arranged over the central space," as recited in present Claim 7.

Specifically, the Office Action refers to element 37, a partition disposed within the central space created by the stack. Crump Figures 6-9 all illustrate the partition 37 being disposed below the top-most level of the of the stack, which results in central space being disposed above and below the partition. In this regard, it is noted that the top-most level of the stack is clearly disposed entirely within the upper chamber 32, which is above the partition 37 cited by the Office Action. Therefore, Crump does not remotely teach or suggest "a second end closure [] arranged *over* the central space," as recited in present Claim 7 (emphasis added), at least because Crump teaches central space area being retained over the partition.

Contrary to the assertions in the Office Action, Crump does not even remotely teach or suggest "a third end closure [] arranged against the lowermost turn formed in the stack central space, " as recited in present Claim 10. Specifically, the Office Action refers to element 39, and asserts that Crump describes that partition creates the bottom central space chamber 38, and is arranged against the lowermost turn. The Office action asserts that Figures 7-9 show element 39 at different height including against the lowermost turn. The passage of Crump cited in the Office Action describes that "a second additional chamber 38 is created *in* the tube inside the hollow cylinder . . . by the addition of a second additional partition 39." Crump column 8, lines 54-56 (emphasis added). In direct contradiction to the assertions in the Office Action, element 39 is never illustrated disposed against the lowermost turn in any of the figures. Rather, Figures 7-9 all show additional central space disposed below element 39, including at least the entire central space disposed within the lowermost turn of the stack. Therefore, Crump does not remotely teach or suggest "a third end closure [] arranged against the *lowermost* turn formed in the stack central space," as recited in present Claim 10 (emphasis added).

Kuenen

The Office Action characterizes Kuenen as teaching a first end closure arranged to cover a conveyor belt in its helical path arranged to cover a conveyor belt in its helical path, wherein the first end closure fits tightly against outer and inner circumferential walls of an encapsulation. Applicants respectfully disagree.

Kuenen is generally directed towards an oven with a fluid jet device for browning or crisping the surface of the processed products. The jet device comprises a plate which bears a series of jet nozzles. Kuenen paragraph 26. The plate "extends above at least a section of the conveyor belt . . . [that] delimits a fluid duct and through which plate the at least one fluid nozzle passes." See Kuenen, paragraphs 10 and 11. The products situated on the conveyor belt section below the nozzles are exposed to hot air jet and are heated relatively strongly on their surface. Kuenen paragraph 27. In a preferred embodiment, a shield is disposed on the other side of the section of the conveyor belt to divert the hot air originating from the jet to the longitudinal edge of the belt. Kuenen paragraph 18.

In sharp contrast to the present invention, there is no teaching or suggestion that the plate in Kuenen "covers[s] the conveyor belt in its entire helical path," as recited in Claims 1 and 18 as currently amended (and required in Claim 24 in different wording). The only illustration of the plate's coverage is in Figure 1, where the plate 21 is shown to cover only about one third of the helical path in a conveyor stack. Figure 3 is a cross section of a single chamber containing one conveyor belt in a helical path. Only the left side is illustrated as having a plate over the helical path, whereas a fan 16 is disposed over the right side of the stack. Kuenen teaches that "the air [in the stack] is sucked up by the fan 16 . . . and is forced into the air duct via the spiral casing." Kuenen paragraph 26. One of skill in the art would understand that a top-mounted fan as taught by Kuenen precludes the co-presence of a plate on which downward air nozzles are attached because they would direct airflow in opposite directions for contrary purposes. Therefore,

Kuenen does not teach an end closure arranged to cover the conveyor in its entire helical path, as required by the currently amended claims, but rather Kuenen requires that the plate cover only a portion of the conveyor in its helical path.

Similarly, Kuenen does not remotely teach or suggest "an end portion of the stack, in which said stack is *vertically surrounded* by an encapsulation that is essentially tight in the horizontal direction to permit a seal, the encapsulation being formed by the co-extension of an outer *circumferential* wall and an inner *circumferential* wall *vertically surrounding* the end of the stack," as recited or required in currently amended Claims 1, 18, and 24 (emphasis added). As described above, Kuenen Figure 3 illustrates that the plate 21 can not cover the conveyor in its entire helical path. Accordingly, the vertical lines indicated in the Office Action Figure B as circumferential walls, only appear along a portion of the helical path. Because the vertical walls do not appear along the entire inner and outer periphery of the stack, they can not be *circumferential* walls that *vertically surround* the end stack. Hence, there is no teaching or suggestion of an encapsulation as claimed in the present application.

Additionally, Kuenen does not teach or suggest a first end closure that "fits tightly against the outer and inner circumferential walls of the encapsulation" because Kuenen does not teach or suggest the "outer circumferential wall and the inner circumferential wall are stationary during operation of the belt," as recited or required in Claims 1, 18 and 24, as currently amended. In this regard, the inner circumferential wall as indicated in Office Action Figure B is described in Kuenen as the wall of a rotatable drum 5 "around which drum the conveyor belt is guided along [the] helical path[]". Kuenen paragraph 24. Such a drum carries the conveyor belt at its inner longitudinal edge in the stack by rotating. See e.g. present specification at page 8, lines 22-24. As such, the outer wall of a rotatable drum operates as the inner cylindrical wall of the stack as

described in the present application, page 8, and not an inner circumferential wall that is stationary during operation of the belt, as required by Claims 1, 18 and 24, as currently amended.

Applicants note that even in the event that Office Action Figure B refers only to the short section vertical line continuous with the rotatable drum 5 wall that extends above a horizontal "lid" of the drum 5, the line is not an inner circumferential wall "vertically surrounding the end portion of the stack," as required by Claims 1, 18 and 24. The disclosure and figures of Kuenen provide no guidance regarding the identity or function of this line. Regardless, in isolation, the line does not extend down from the plate 21 for a sufficient distance to intersect even the plane of the top-most layer of the belt. Because the vertical line does not overlap with the stack, it cannot not vertically *surround* the stack, as required in the present claims. If the line is not considered in isolation, but in connection with the entire vertical line of indicating the outer wall of the rotatable drum, then the line can not be interpreted as being stationary during operation of the belt, as required by Claims 1, 18 and 24, as currently amended (described above).

2. The Differences Between the Rejected Claims and the Cited Art Are Not Obvious Differences

The Office Action suggests it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the Crump reference to include the first end closure arranged to cover the conveyor belt in its helical path of Kuenen. The Office Action concludes that motivation to combine Crump with Kuenen exists because Kuenen teaches a first end closure can provide hot air jets to browning or crisping of food can be ensured at a specific zone of a helical conveyor, while different heating conditions are maintained in the remaining zones. The Office Action asserts that Crump would be similarly improved by having a first end closure to provide hot air jets to better ensure that desirable browning or crisping is achieved for a higher value food product, the surface of foods. The Applicants respectfully disagree.

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There is no apparent reason to modify the teachings of Crump with the teachings of Kuenen, in the manner proposed by the Examiner. In the context of an obviousness rejection, the Supreme Court explained the importance of "identifying a reason" why a skilled artisan would be prompted to arrive at the presently claimed invention. KSR, 127 S.Ct. at 1741. The Court noted that there should be an "explicit" analysis regarding "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.*

As a preliminary matter, because the combination of references fails to teach every limitation of the present claims, there can be no "apparent reason" to combine the references to arrive at the claimed invention. At minimum, and as described in detail above, neither reference teaches or remotely suggests an encapsulation as recited in the currently amended claims. Additionally, neither reference teaches or remotely suggests a first end closure arranged to cover the conveyor in its entire helical path.

Additionally, a person of ordinary skill in the art would not be motivated to modify Crump with the top plate of Kuenen to obtain desirable browning and crisping. As cited in the Office Action, Crump utilizes "downward vertical flow" of gas through the stack Crump column 4, lines 39-40. The improvements taught by Crump create a controlled downward flow of the gas from high pressure to low pressure by the creation of additional chambers around the stack such that gas escaping horizontally from the stack re-enter in relatively close proximity. See arrows in Crump, Figure 6-8. This "serpentine-like path . . . significantly increases contact between treatment gas and conveyed product, and prevents exposure of the . . . lower tiers to treatment gas of a treatment agent concentration which might only be tolerated by upper tier packed beds." Crump column 8, line 66 to column 9, line 5.

In sharp contrast, Kuenen teaches a plate that is a structural support for one or a series of jet nozzles that spray hot air with "a relatively high air velocity" over products on the top turn of

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helical belt stack so that products are heated relatively strongly on their surface. Kuenen paragraph 27. Because the high velocity hot air may be undesirable for products in the lower tiers, Kuenen teaches a shield plate 26 situated on the other side of the section of the conveyor belt from the nozzles to deflect the air away from vertical flow of the air and in the longitudinal direction to the side of the stack. Kuenen paragraph 18. Therefore, the elements taught in Crump and Kuenen are not for analogous purposes. Furthermore, the top plate of Kuenen would require additional modifications of Crump, namely a shield plate to obstruct vertical flow of treatment gas. This directly contradicts the core feature espoused in Crump, namely controlled vertical gas flow through the belt layers of the stack. Consequently, a person of ordinary skill in the art would not be motivated to modify Crump with the top plate feature taught by Kuenen.

In view of the foregoing, it is demonstrated that a *prima facie* case of obviousness has not been established because Crump and Kuenen, taken together or separately, fail to teach every limitation of Claims 1, 18 and 24, as currently amended. Furthermore, it is demonstrated that a person of ordinary skill in the art would not modify the references to arrive at the present invention as recited in Claims 1, 18 and 24, as currently amended. Claims 2, 5, and 7-13 depend from Claim 1, Claims 19 and 22 depend from Claim 18. Therefore, removal of this ground of rejection is respectfully requested.

Claim Rejections Under 35 U.S.C. §103(a) as being unpatentable over Crump, U.S. Patent No. 5,515,775, in view of Kuenen, US Patent Publication No. 2002/0139789 A1, in further view of U.S. Patent No. 5,526,581, issued to Winterson et al. ("Winterson"), in further view of U.S. Patent No. 5,515,775, issued to Hwang et al. ("Hwang"), and in further view of U.S. Patent No. 3,412,476, issued to Astrom et al. ("Astrom").

Claims 3, 20, and 23 stand rejected as being unpatentable over Crump and Kuenen, as applied above to Claims 1 and 18, and in further view of U.S. Patent No. 5,526,581, issued to

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Winterson et al. ("Winterson"). Claims 4, 14, and 21 stand rejected as being unpatentable over Crump and Kuenen as applied above to Claims 1 and 18, and in further view of U.S. Patent No. 5,515,775, issued to Hwang et al. ("Hwang"). Claims 16 and 17 stand rejected as being unpatentable over Crump and Kuenen as applied above to Claims 1, and in further view of U.S. Patent No. 3,412,476, issued to Astrom et al. ("Astrom").

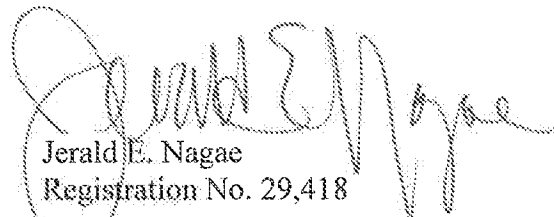
None of Winterson, Hwang, or Astrom remedy the deficiencies of Crump and Kuenen, as described above in regard to Claims 1 and 18. Therefore, Applicants respectfully submit that dependent Claims 3, 4, 14, 16, 17, 20, 21 and 23 are also in condition for allowance. Accordingly, Applicants respectfully request withdrawal of the rejections to these claims.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that all pending claims are currently in condition for allowance. The Examiner is encouraged to telephone the undersigned with any remaining questions.

Respectfully submitted,

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